SOME PHYLLACHORAS FROM PORTO RICO

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(WITH PLATES VI–VIII)

The following species were collected by the senior author, and specimens are deposited as is indicated in an article by E. Young.[1] The definition of the genus *Phyllachora* given by Theissen and Sydow[2] is accepted, and only species conforming to their conception of the genus are here listed.

Phyllachora andropogonis K. and H.

On *Imperata contracta:* Maricao, 8875, 8898; Rio Tanamá, 8006; Arecibo-Lares road, 7216.

The spores are much larger than those of *P. graminis*, but agree well with those of *P. andropogonis*. The stromata when young bear many *Septoria*-like conidia.

Phyllachora banisteriae, sp. nov.—Spot none. Stromata numerous, scattered evenly over the leaf, 1–2 mm. in diameter, circular or more often oblong, black, visible from above and below, usually poorly developed in the mesophyll; clypei both above and below, thin, limited to the epidermis. Locules few, large, about 190×270 μ. Asci 8-spored, cylindrical. Spores oblong, hyaline, continuous, 14×35 μ.—Figs. 1 and 2.

On *Banisteria tomentosum:* Vega Baja, 8341.

Conidia, in pycnidia on the stromata, *Septoria*-like. Differs from *P. pestis-nigra* Speg. in many respects.

Phyllachora bourreriae, sp. nov.—Spots none. Stromata circular and black, abundant, scattered irregularly over the leaf, 1–2 mm. in diameter, equally prominent above and below, occupying the mesophyll. Clypeus in epidermis above and below, but slightly exceeding the perithecia. Locules several, globular, about 160 μ in diameter, wall definite. Stroma in the mesophyll loose. Asci cylindrical, 8-spored, 85×9–12 μ. Spores hyaline, 1-celled, 12–16×6–7 μ.—Figs. 3 and 4.

On *Bourreria succulenta:* Vega Alto, 4149 (type); Joyuda, 4770y.

[1] Mycologia 7:143. 1915. [2] Ann. Myc. 13:149. 1915.

Phyllachora canafistulae, sp. nov.—Spots not exceeding the stromata. Stromata mostly large, 2–5 mm., flat, black, visible equally from both sides of leaf, occupying the mesophyll, with many locules. Clypeus more prominent above. Locules globular, 155–170 μ in diameter. Asci cylindrical, 72–99×16–20 μ. Spores oval to ellipsoid, hyaline, continuous, 13–16×6–8 μ. Paraphyses filamentous.—Figs. 5 and 6.

On *Cassia fistula:* Mayaguez, 7022 (type).

Although 2 species of *Phyllachora* are described on *Cassia* (*P. bakeriana* and *P. cassiae* from Brazil), the present form appears entirely distinct from both of them; from the former, which has small stromata and large spores; from the latter, which has small, mostly unilocular, stromata which are limited to the upper part of the mesophyll.

Phyllachora drypeticola, sp. nov.—Spots not exceeding the stromata. Stromata numerous, black, extending through the leaf and visible equally above and below, 1–2 mm. in diameter, in the mesophyll with a thick clypeus on each side. Clypeus not exceeding the stroma. Locules globular or irregular, mostly strictly median, 100–200×125 μ. Asci cylindrical, 8-spored. Spores 17×3.5 μ, continuous, hyaline.—Figs. 7 and 8.

On leaves of *Drypetes* sp.: Rio Tanamá, near Arecibo, 7828 (type). On *Drypetes glauca:* El Gigante, 8558, 8558b; Utuado, 4387; Maracao, 4508, 4472, 1353, 730, 4746, 8558D; Mayaguez, 1834. In certain specimens, as no. 4387, the stromata are less arched of surface and often surrounded by a dead zone of leaf tissue.

This form is especially interesting since the stromata, while bearing perithecia in the mesophyll, often bear conidial layers at the same time, on both its upper and lower surfaces. These beds to the naked eye appear brick-red.

PHYLLACHORA ENGLERI Speg.—Fig. 11.

On *Anthurium scandens:* Las Marias, 430; Monte de Oro, 5712.

Phyllachora gnipae, sp. nov.—Spots numerous, 0.5–1.5 cm. in diameter, surrounding the stromata with an irregularly circular zone, below brown, above brown, or when old blanched. Stromata irregularly circular or angular, 2–5 mm. in diameter, shining black above, dull black below, rough due to the perithecia. Clypei about 30 μ thick in both upper and lower epidermis, extending far

beyond the locules. Locules numerous, variable in size, 190×95 to 380×190 μ, located in the mesophyll. Stroma surrounding the locules poorly developed. Asci cylindrical, 8-spored. Spores oblong, hyaline, continuous, guttulate and granular, obtuse, 18–20×6–7 μ.—Figs. 27 and 28.

On *Gnipa americana:* El. Gigante, 8520.

Differs from *P. laeviuscula* Speg. and *P. guavira* Speg. in character of stroma and size of locules and spores.

PHYLLACHORA GRAMINIS.

On *Eriochloa subglabra:* without number or locality.

Phyllachora heterotrichae, sp. nov.—Spots small, 2–4 mm. in diameter, approximately circular, pale, visible from above and below. Stromata black, irregular in outline, more prominent below, 1–2 mm. in diameter, occupying the whole thickness of the leaf and usually accompanied by increase in leaf thickness, loose in structure. Clypeus epidermal, present above and often extending far beyond the perithecia; usually present also below but less extensive. Locules many, about 110–150 μ in diameter, walls well developed. Asci 8-spored. Spores 13–14×3.5–4 μ, continuous, hyaline.—Figs. 9 and 10.

On *Heterotrichum cymosum:* Villa Alba, 116.

Differs from *P. melastomacearum* Rac. in its much smaller stromata, and from *P. aliena* in its small perithecia.

PHYLLACHORA LATHYRI (Lév.) Theiss. and Syd.—Figs. 12 and 13.

On *Bradburya virginiana:* Tanamá Rio, 7829; Bayamon, 1887; Jayuya, 5991; Manati, 4314; Dos Bocos, 8092; Maricao, 8834. On *Galactia striata:* Jajome Alto, 5644. On undetermined legume: St. Ana, 6651.

Phyllachora mayepeae, sp. nov.—Spots irregularly circular, indefinite, without border, tan or yellow, shading to normal green, 3–15 mm. in diameter, bearing numerous (5–50) circular, black, punctiform stromata which are visible equally above and below, 200–1000 μ in diameter, occupying the mesophyll. Clypei both above and below, but slightly exceeding the stromata. Stromata unilocular. Locules large, globular, with numerous asci. Asci

58–85×18–27 μ. Paraphyses filiform. Spores 9–19×7–12 μ, hyaline, continuous.—Fig. 14.

On *Mayepea domingensis:* Maricao, 785 (type), 775, 731, 765, 4751, 196, 8787, 4720; Mayaguez Mesa, 7471, 7585; Coamo, 148.

The circular tan-colored spots with numerous punctiform stromata are characteristic.

Phyllachora metastelmae, sp. nov.—Stromata shining black, 1–2 mm. wide, 5–15 mm. long, partially encircling the stem, occupying all of the tissues exterior to the wood. Locules about 200 μ in diameter, 120 μ high. Asci 8-spored. Spores cylindrical, hyaline, continuous, 14×5 μ.—Figs. 15 and 16.

On stems of *Metastelma* sp.: El Alto de le Bandera, 8715 (type).

Phyllachora nectandrae, sp. nov.—Spots round or irregular, brown, surrounding the stromata, showing on both sides of leaf. Stromata epiphyllous, black, shining, 1–4 mm. in diameter, slightly raised, scattered or seldom confluent. Locules single or few, nearly globular, located in the mesophyll, 225–500 μ wide, 300 μ deep, side wall thin. Clypeus black, 40–50 μ thick, extending laterally beyond the locules. Paraphyses copious, filiform. Asci cylindrical, 8-spored, 108×10 μ. Spores oblong, 14×5 μ.—Figs. 23 and 24.

On *Nectandra patens:* Maricao, 3608 (type), 8949, 3435, 3730.

Differs from *P. nectandricola* Speg. in having paraphyses and in other details.

Phyllachora ocoteicola, sp. nov.—Spots amphigenous, abundant, angular, 2–4 mm. across; above shining black, below smooth, dull black, with minute hillocks indicating the locules. Clypeus epidermal, apparent both above and below, flat, about 17 μ thick. Stroma of mesophyll consisting merely of scattered mycelial threads. Locules several to the spot, median in the mesophyll, 156–170 μ high, 200–235 μ wide, internal dimensions, wall hyaline, thin. Asci numerous, 8-spored. Spores oblong to cylindrical, 17×54 μ, often somewhat pointed at one end. Paraphyses numerous, filiform, crooked.—Figs. 25 and 26.

On *Ocotea leucoxylon:* Monte Alegrillo, 4768 (type), 4767, 4725; Monte de Oro, 5669; Maricao, 701.

Quite distinct from *P. ocoteae* P. Henn. in shape and character of spot, size of spores, and in other details.

PHYLLACHORA ROUREA Syd., char. emend.—Ascigerous stromata black, numerous, scattered over the leaf, 2–3 mm. in diameter, visible from both sides of the leaf; shining above, dull below, locules 150–240 μ internal diameter, numerous in the stroma. Clypeus above and below extending slightly beyond the locules. Asci numerous, linear, 8-spored, about 100×7–10 μ, obtuse. Spores uniseriate, hyaline, continuous, 5×10 μ, oval. Paraphyses scant, filiform.—Figs. 17 and 18.

On *Rourea glabra:* Luquillo, 5447.

The original description by SYDOW was based on Philippine material which contained only conidia. It is very probable that the present specimen is cospecific with that of SYDOW, and the name is therefore retained.

PHYLLACHORA SECURIDACAE P. Henn.—Figs. 19 and 20.

On *Securidaca virgata:* Rosario, 9491; Mayaguez, 7402, 1196, 313; Maricao, 8981.

This species was described from South American material, and our specimens differ as follows from the description: Locules are numerous, not few; the clypeus is distinctly rugose, a striking character that is not mentioned in the description; locules are somewhat larger than as described, and the walls are black, not brown; spores are quite uniformly 10×5 μ, while the original description gives 15–18×5–6 μ. Notwithstanding these differences it seems best to report our specimens under this name. Due to an error in host determination 2 of these specimens were reported by GARMAN as *P. perforans* (Mycologia 7:340. 1903).

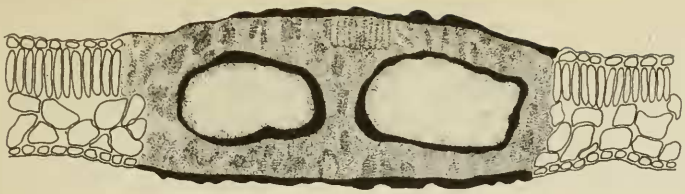
PHYLLACHORA SIMPLEX Starb.—Fig. 21.

On *Coccolobis laurifolia:* Mona Island, 6171, 6433; San Juan, 4060; Bayamon, 394; Monacillo, 9340; Martin Peña, 9311, 9716; San German, 7521, 7519; Tanamá Rio, 7896.

PHYLLACHORA TRAGIAE (B. and C.) Sacc.—Fig. 22.

On *Croton lucida:* Guanica, 356, 6839; Mona Island, 6217, 6211, 6153. On *Croton flavens:* Quebradillas, 9251; Aquadilla, 7253.

The specimens on the 2 hosts differ slightly, particularly in that the stromata are more frequently unilocular on *C. flavens*, and that on this host the whole structure is more pale, less carbonaceous. Filiform conidia were found associated with the stromata.



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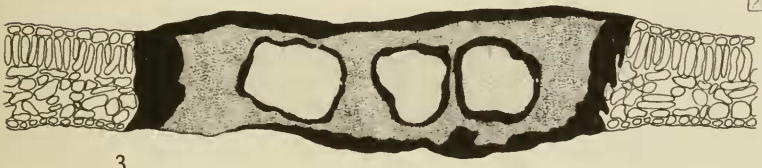

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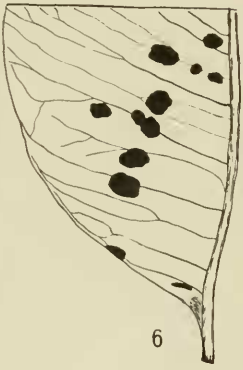

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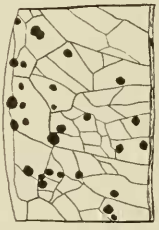

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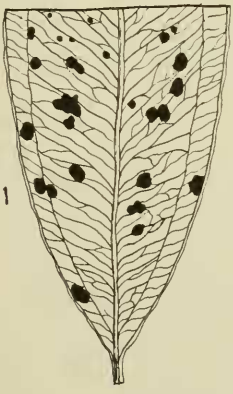

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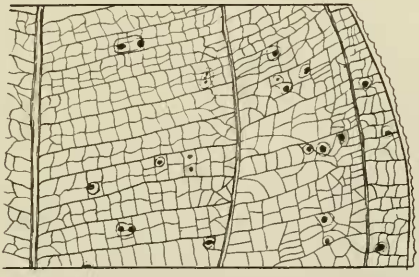

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STEVENS and DALBY on PHYLLACHORA